

THE CLAIMS

What is claimed is:

1. A battery charging assembly for charging a battery of a mobile device
5 comprising:

a charging unit having a power converter for converting an input voltage to a desired output voltage and at least one electrical contact for receiving the input voltage;

an output assembly coupled to the charging unit for charging a battery of a mobile device;

10 a first input assembly detachably associated with the charging unit, said input assembly comprising an adapter for removable attachment to the charging unit, a power cord, and a plug configured to mate with a style of electrical outlet such that the charging unit is positionable at a remote location from the electrical outlet, said adapter having at least one electrical contact for mating with the at least one electrical contact of the charging unit.

15 2. The battery charging assembly of claim 1, further comprising a second input assembly interchangeable with the first input assembly, the second input assembly comprising a second input assembly adapter for removable attachment to the charging unit, said second input assembly adapter including a plug configured to mate with an electrical
20 outlet such that the charging unit is positionable adjacent an electrical outlet when the second input assembly adapter is installed.

3. The battery charging assembly of claim 1, wherein the output assembly comprises a USB connector.

25 4. The battery charging assembly of claim 3, further comprising a cord coupled to the USB connector.

5. The battery charging assembly of claim 1, wherein the output assembly
30 comprises electrical contacts associated with the charging unit and configured to charge at least one of a battery and a mobile device.

6. The battery charging assembly of claim 1, wherein the output assembly comprises a docking station coupled to the charging unit.

5 7. The battery charging assembly of claim 1, wherein the charging unit comprises a socket and the adapter of the first input assembly is configured to detachably mate with the socket.

8. The battery charging assembly of claim 7, further comprising a latch
10 mechanism for removably latching the adapter in the socket.

9. The battery charging assembly of claim 8, wherein the latch mechanism comprises an arm and a recess.

15 10. The battery charging assembly of claim 9, wherein the arm is attached to the charging unit and the recess is defined on the adapter.

11. The battery charging assembly of claim 10, further comprising a release mechanism for releasing the adapter from the recess.

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12. The battery charging assembly of claim 1, wherein the power cord, adapter and plug are integral.

13. The battery charging apparatus of claim 1, wherein the charging unit further
25 comprises a power converter module.

14. The battery charging apparatus of claim 13, wherein the power converter module comprises at least one of a fuse, an input source, an electrical filter, a transformer, a top switch feedback loop, an output-rectified filter, a DC-DC converter, an AC-AC
30 converter, an AC-DC converter, an output filter, and a voltage and current feedback controller.

15. The battery charging assembly of claim 1, wherein the power cord, adapter, and plug comprise separate parts that are configured to mate together.

5 16. A battery charging apparatus for use in charging an electronic device comprising:

a charging unit having a power converter and a socket having at least one electrical contact;

10 an output assembly coupled to the charging unit for charging a battery of an electronic device;

a set of input assemblies, each configured for individual detachable association with the socket of the charging unit, each said input assembly comprising an adapter for removable attachment within the socket, a power cord, and a plug configured to mate with a style of electrical wall socket, where each plug is configured to mate with a different style of electrical wall socket, said adapter having at least one electrical contact for mating with the at least one electrical contact of the socket.

17. The battery charging apparatus of claim 16, further comprising a latching mechanism for detachably latching the adapter in the socket.

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18. The battery charging apparatus of claim 17, further comprising a release mechanism for unlatching the adapter from the socket.

19. The battery charging apparatus of claim 16, wherein the output assembly comprises a USB connector and a cord for charging a battery of an electronic device at a location remote from the charging unit.

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20. An adapter for coupling a power cord to a receptacle associated with a power converter comprising:

a body member configured to seat in a receptacle and having at least one electrical contact for mating with an electrical contact positioned in a receptacle, said body member including a latching mechanism for latching the body member into a receptacle, said adapter
5 being configured to attach to a power cord and plug.

21. The adapter of claim 20, wherein the latching mechanism comprises a recess configured to receive an arm.

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22. The adapter of claim 20, wherein the latching mechanism comprises a pair of spring clips configured to engage a post defined in a receptacle.

23. The adapter of claim 22, wherein each of the pair of spring clips includes an inwardly extending protrusion for mating with a corresponding recess defined on a post positioned in a receptacle;

24. The adapter of claim 23, further comprising a plunger positioned between the pair of spring clips, said plunger being movable vertically relative to the spring clips and having a contour that spreads the spring clips apart when moved vertically.

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25. The adapter of claim 20, further comprising at least one guide pin for guiding the body member into a receptacle.

26. The adapter of claim 20, wherein the latching mechanism comprises a pair of guide bars configured to engage a post positioned in a receptacle and a pair of detents positioned on opposite sides of the body member, said detents configured to engage spring biased ball bearings that are positioned on a receptacle.

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27. The adapter of claim 26, wherein the guide bars have an L-shaped cross-section, with one leg of the L configured to engage a post positioned in a receptacle.

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28. The adapter of claim 20, wherein the latching mechanism further comprises a release mechanism.

5 29. The adapter of claim 28, wherein the release mechanism is a push button.

30. The adapter of claim 28, wherein the release mechanism is a plunger.

31. A battery charging assembly for charging a mobile device comprising:
10 a charging unit having a power converter for converting an input voltage to a desired output voltage and at least one electrical contact for receiving the input voltage;
an input assembly coupled to the charging unit for providing the input voltage to the charging unit; and
an output assembly coupled to the charging unit for charging a mobile device at a
15 remote location from the charging unit.

32. The battery charging assembly of claim 31, wherein the output assembly comprises a USB connector and a power cable.

20 33. The battery charging assembly of claim 31, wherein the output assembly comprises a mini USB connector coupled to a USB A connector via a cable.

34. The battery charging assembly of claim 33, wherein the charging unit includes a receptacle having at least one electrical contact; and
25 the input assembly comprises an adapter having at least one electrical contact, a power cord, and a plug for association with a style of electrical outlet such that the charging unit is positionable at a remote location from the electrical outlet, said adapter being configured to seat in the receptacle so that the at least one electrical contact of the adapter mates with the at least one electrical contact of the receptacle.

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